

## Attachment to Examiner-Initiated Interview Summary

### Proposed changes:

1. A substantially purified peptide comprising ~~the~~ an amino acid sequence selected from the group consisting of SEQ ID NO: 1 or a fragment thereof of SEQ ID NO: 1, wherein said peptide or said fragment increases the degree or rate of osteogenesis by BMP-2 in mammalian cells.

2. (Canceled)

3. (Canceled)

4. (Canceled)

5. A composition comprising:

- (a) ~~a peptide comprising the amino acid sequence of SEQ ID NO: 1 or a fragment thereof, wherein said fragment increases degree or rate of osteogenesis by BMP-2 in mammalian cells~~ the peptide of claim 1; and
- (b) at least one member selected from the group ~~comprising~~ consisting of a TGF $\beta$  family member, BMP-2, BMP-4, BMP-7, or demineralized bone matrix.

6. (Canceled)

7. (Canceled)



8. (Canceled)

9. (Canceled)

10. (Canceled)

11. A medicament for use in inducing the rate or degree of osteogenesis in a vertebrate including:

(a) a therapeutically effective dosage of ~~a peptide comprising the amino acid sequence of SEQ ID NO: 1 or a fragment thereof, wherein said fragment increases the degree or rate of osteogenesis by BMP-2 in mammalian cells~~ the peptide of claim 1; and

(b) a therapeutically effective dosage of one of BMP-2 or demineralized bone matrix.

12. A medicament for use in inducing the rate or the degree of calcification in a vertebrate including ~~a peptide comprising the amino acid sequence of SEQ ID NO: 1 or a fragment thereof, wherein said fragment increases the degree or rate of calcification in vertebrate cells~~ the peptide of claim 1.

13. (Canceled)



14. (Canceled)

15. (Canceled)

16. A method of enhancing the rate or degree of osteogenesis in vertebrate tissue, comprising applying to the tissue:

(a) ~~a peptide comprising the amino acid sequence of SEQ ID No: 1 or a fragment thereof, wherein said fragment increases degree or rate of osteogenesis by BMP-2 in mammalian cells~~ the peptide of claim 1; and

(b) one of BMP-2 or demineralized bone matrix.

17. A method of inducing calcification of vertebrate tissue, comprising applying to the tissue ~~a peptide comprising the amino acid sequence of SEQ ID NO: 1 or a fragment thereof, wherein said fragment increases the degree or rate of calcification in vertebrate cells~~ the peptide of claim 1.

18. A method of inducing calcification of mammalian osteogenic tissue, comprising applying to the tissue ~~a peptide comprising the amino acid sequence of SEQ ID NO: 1 or a fragment thereof, wherein said fragment increases the degree or rate of calcification in mammalian chondrogenic and osteogenic precursor cells~~ the peptide of claim 1.



19. A method of enhancing the rate or degree of osteogenesis in vertebrate tissue, comprising:

- (a) administering osteogenic cells to ~~the~~ a patient at a location proximate to the desired location of osteogenesis;
- (b) administering ~~a peptide comprising the amino acid sequence of SEQ ID NO: 1 or a fragment thereof, wherein said fragment increases the degree or rate of osteogenesis by BMP-2 in mammalian cells~~ the peptide of claim 1; and
- (c) administering one of BMP-2 or demineralized bone matrix.

20. A method of enhancing the rate or degree of calcification in vertebrate tissue, comprising:

- (a) administering osteogenic cells to ~~the~~ a patient at a location proximate to the desired location of calcification; and
- (b) administering ~~a peptide comprising the amino acid sequence of SEQ ID NO: 1 or a fragment thereof, wherein said fragment increases the degree or rate of calcification in vertebrate chondrogenic and osteogenic precursor cells~~ the peptide of claim 1.

21. A method of enhancing the rate or degree of osteogenesis in a vertebrate, comprising:

- (a) treating vertebrate mesenchymal stem cells with one of BMP-2 or demineralized bone matrix to induce osteogenesis of the cells;



(b) treating the vertebrate mesenchymal stem cells with ~~a peptide comprising the amino acid sequence of SEQ ID NO: 1 or a fragment thereof, wherein said fragment increases the degree or rate of osteogenesis by BMP-2 in vertebrate cells~~ the peptide of claim 1; and

(c) administering the vertebrate mesenchymal stem cells to the patient at a location proximate to the desired location of osteogenesis.

22. An article of manufacture comprising ~~a peptide~~ the peptide of claim 1 immobilized on a solid support, ~~wherein said peptide comprises the amino acid sequence of SEQ ID NO: 1 or a fragment thereof, wherein said fragment increases the degree or rate of osteogenesis or calcification by BMP-2.~~

23. The article of manufacture of claim ~~38~~ 22 further including BMP-2 or demineralized bone matrix.

24. (Canceled)

25. An implant for use in vivo comprising, a substrate having a surface, wherein at least the surface of the implant includes ~~a peptide comprising the amino acid sequence of SEQ ID NO: 1 or a fragment thereof, wherein said fragment increases the degree or rate of osteogenesis or calcification by BMP-2~~ the peptide of claim 1.



26-28. (Canceled)

29. (Canceled)

30. (Canceled)

31. (Canceled)

32. (Canceled)

33-35. (Canceled)

36. (Canceled)

37. (Canceled)

38. (Canceled)

39. (Canceled)

40. (Canceled)



41. The implant according to claim 25 ~~wherein said fragment increases the degree or the rate of osteogenesis by BMP-2 in mammalian cells; and wherein~~ said implant further includes one of BMP-2 or demineralized bone matrix.

42. The implant of claim ~~40~~ 25, wherein at least the surface of the implant includes at least one of chondrogenic or osteogenic precursor cells.

43. The implant of claim 25, wherein the substrate is formed into the shape of a pin, screw, plate, or prosthetic joint.

44. (Canceled)

45. (Canceled)

46. (Canceled)

47. (Canceled)

48. (Canceled)

49. (Canceled)